

WHAT IS CLAIMED IS

1. A transcoding method of converting first coded data, which is obtained from a plurality of pictures of a moving-picture by performing a coding process including quantization, into  
5 second coded data, the transcoding method comprising the steps of:

performing inverse-quantization, corresponding to the quantization, on the first coded data respectively corresponding to macroblocks included in a plurality of slices  
10 of each of the plurality of pictures; and

performing requantization on the inverse-quantized data respectively corresponding to the macroblocks by using a corresponding one of requantization scales corresponding to slices, to which the macroblocks respectively belong, to  
15 generate the second coded data.

2. A transcoding method of converting first coded data, which is obtained from a plurality of pictures of a moving-picture by performing discrete cosine transform (DCT) and performing  
20 a coding process including quantization, into second coded data, the transcoding method comprising:

an inverse-quantization step of performing inverse-quantization, corresponding to the quantization, on the first coded data respectively corresponding to macroblocks  
25 of each of the plurality of pictures;

an obtaining step of obtaining DC-component difference values of DCT coefficients of each of the macroblocks of an intra-frame coded intra picture included in the first coded data; and

5 a generating step of performing requantization on the inverse-quantized data respectively corresponding to the macroblocks by using a requantization scale corresponding to a corresponding one of the obtained DC-component difference values respectively corresponding to the macroblocks of the  
10 intra picture to generate the second coded data.

3. The transcoding method according to claim 2, wherein one of the macroblocks belonging to a noticed region is detected according to the obtained DC-component difference  
15 values respectively corresponding to the macroblocks of the intra picture, and

the second coded data is generated by using the requantization scale corresponding to the macroblock belonging to the noticed region, and the requantization scale which  
20 corresponds to each of the macroblocks belonging to the other regions and differs from the requantization scale corresponding to the macroblock belonging to the noticed region.

4. A transcoding method of converting first coded data, which  
25 is obtained from a plurality of pictures of a moving-picture

by performing discrete cosine transform (DCT) and performing a coding process including quantization, into second coded data, the transcoding method comprising the steps of:

performing inverse-quantization, corresponding to the quantization, on the first coded data respectively corresponding to macroblocks of each of the plurality of pictures;

obtaining DC-component difference values of DCT coefficients of each of the macroblocks of an intra-frame coded intra picture included in the first coded data; and

performing requantization on the inverse-quantized data respectively corresponding to the macroblocks by using requantization scales according to slices, to which the macroblocks respectively belong, and according to the obtained DC-component difference values respectively corresponding to the macroblocks of the intra picture to generate the second coded data.

5. A transcoding apparatus of converting first coded data, which is obtained from a plurality of pictures of a moving-picture by performing a coding process including quantization, into second coded data, the transcoding apparatus comprising:

an inverse-quantization unit which performs inverse-quantization, corresponding to the quantization, on

the first coded data respectively corresponding to macroblocks included in a plurality of slices of each of the plurality of pictures; and

a generating unit which performs requantization on the inverse-quantized data respectively corresponding to the macroblocks by using a corresponding one of requantization scales corresponding to slices, to which the macroblocks respectively belong, to generate the second coded data.

6. A transcoding apparatus of converting first coded data, which is obtained from a plurality of pictures of a moving-picture by performing discrete cosine transform (DCT) and performing a coding process including quantization, into second coded data, the transcoding apparatus comprising:

an inverse-quantization unit which performs inverse-quantization, corresponding to the quantization, on the first coded data respectively corresponding to macroblocks of each of the plurality of pictures;

an obtaining unit which obtains DC-component difference values of DCT coefficients of each of the macroblocks of an intra-frame coded intra picture included in the first coded data; and

a generating unit which performs requantization on the inverse-quantized data respectively corresponding to the macroblocks by using a requantization scale corresponding to

a corresponding one of the obtained DC-component difference values respectively corresponding to the macroblocks of the intra picture to thereby generate the second coded data.

5 7. A transcoding apparatus of converting first coded data, which is obtained from a plurality of pictures of a moving-picture by performing discrete cosine transform (DCT) and performing a coding process including quantization, into second coded data, the transcoding apparatus comprising:

10 an inverse-quantization unit which performs inverse-quantization, corresponding to the quantization, on first coded data respectively corresponding to macroblocks of each of the plurality of pictures;

15 an obtaining unit which obtains DC-component difference values of DCT coefficients of each of the macroblocks of an intra-frame coded intra picture included in the first coded data; and

20 a generating unit which performs requantization on the inverse-quantized data respectively corresponding to the macroblocks by using requantization scales according to slices, to which the macroblocks respectively belong, and according to the obtained DC-component difference values respectively corresponding to the macroblocks of the intra picture to generate the second coded data.

8. A transcoding method of converting first coded data, which is obtained from a plurality of pictures of a moving-picture by performing a coding process including quantization, into second coded data, the transcoding method comprising the steps

5 of:

performing inverse-quantization, corresponding to the quantization, on the first coded data respectively corresponding to macroblocks included in a plurality of slices of each of the plurality of pictures;

10 determining a level of importance of each of the macroblocks;

determining a requantization scale based on the level of importance; and

15 performing requantization on the inverse-quantized data by using the requantization scale to generate the second coded data.

9. The transcoding method according to claim 8, wherein the step of determining the level of importance includes a step  
20 of detecting a noticed region in each of the plurality of pictures.

10. The transcoding method according to claim 9, wherein the noticed region is specified by detecting an edge in each of  
25 the plurality of slices.

11. The transcoding method according to claim 8, wherein the level of importance is determined according to a position of each of the plurality of slices.

5

12. The transcoding method according to claim 9, wherein the level of importance is determined according to a combination of the detected result of the noticed region and a position of each of the plurality of slices.

10

1005504.01300  
2003.04.01